

(12) UK Patent Application (19) GB (11) 2 327 889 (13) A

(43) Date of A Publication 10.02.1999

(21) Application No 9716837.1

(22) Date of Filing 09.08.1997

(71) Applicant(s)

Samw Hong-Jen Wang
No.227,Er Saint 2nd Road, Chien Zen Chu,
Kaoshiung, Taiwan

(72) Inventor(s)

Samw Hong-Jen Wang

(74) Agent and/or Address for Service

Alpha & Omega
Chine Croft, East Hill, OTTERY ST. MARY, Devon,
EX11 1PJ, United Kingdom

(51) INT CL⁶

A63B 53/08

(52) UK CL (Edition O)

A6D D23A D23B

(56) Documents Cited

GB 2133295 A GB 1568988 A

(58) Field of Search

UK CL (Edition O) A6D D23A D23B

INT CL⁶ A63B 53/04 53/08

On-Line Database: WPI

(54) Abstract Title

Adjustably weighted golf club head

(57) A golf club head includes a head member and one or more weights adjustably secured to the head member for allowing the weight to be secured to different position relative to the head member and for allowing the head member to be easily and accurately adjusted to different center of gravity. The weight is pivotally secured to the head member and includes a number of ribs for engaging with the ribs of the head member or a cover plate and for further securing the weight to the head member.

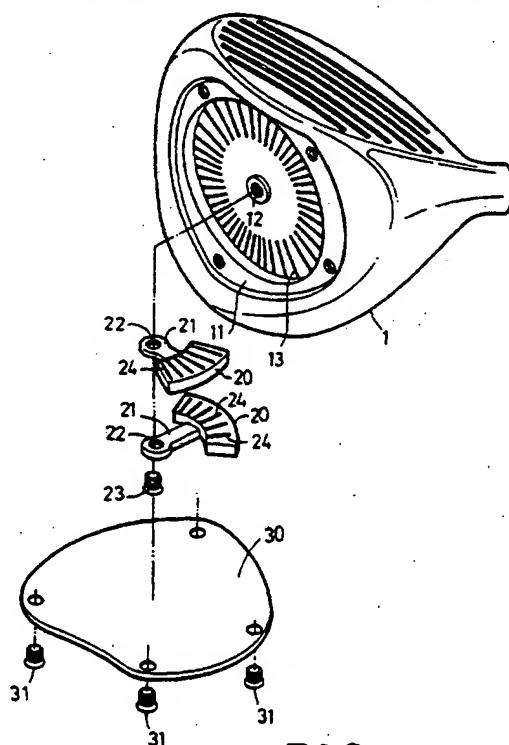


FIG. 1

BEST AVAILABLE COPY

At least one drawing originally filed was informal and the print reproduced here is taken from a later filed formal copy. The claims were filed later than the filing date within the period prescribed by Rule 25(1) of the Patents Rules 1995. This print takes account of replacement documents submitted after the date of filing to enable the application to comply with the formal requirements of the Patents Rules 1995.

GB 2 327 889 A

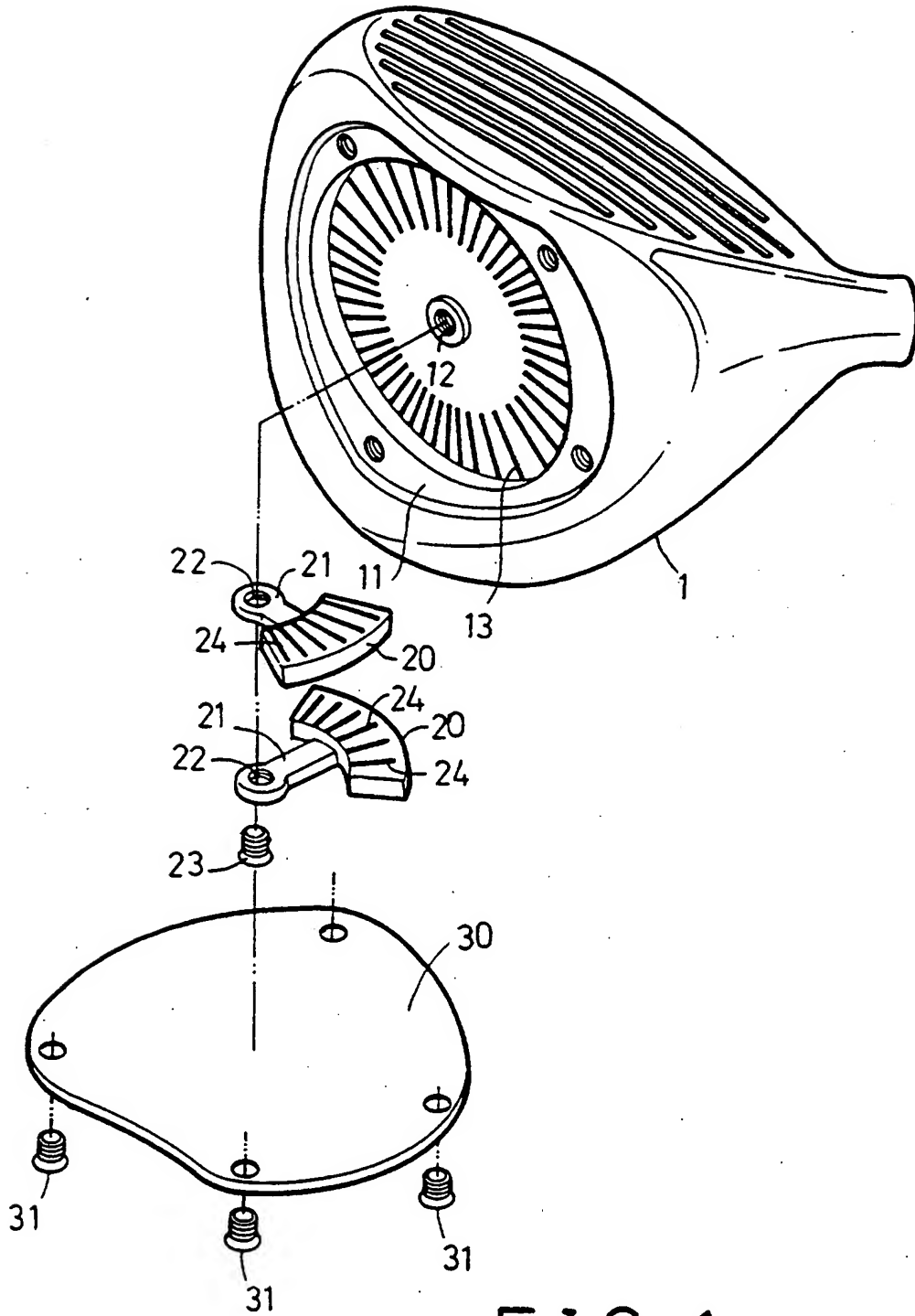


FIG. 1

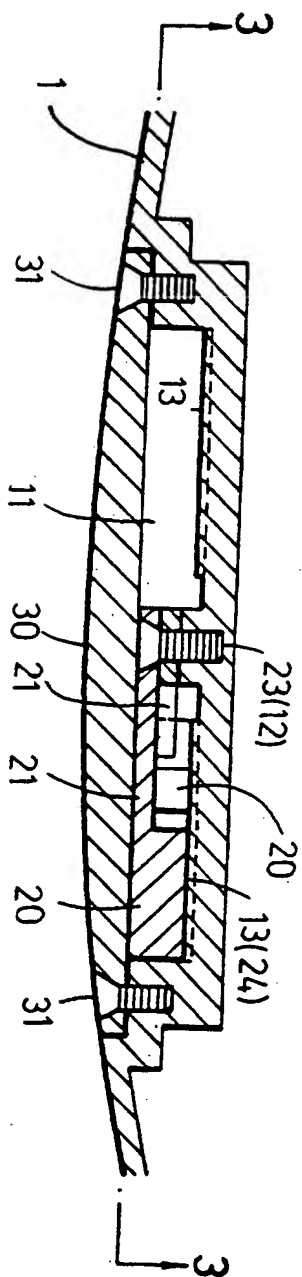


FIG. 2

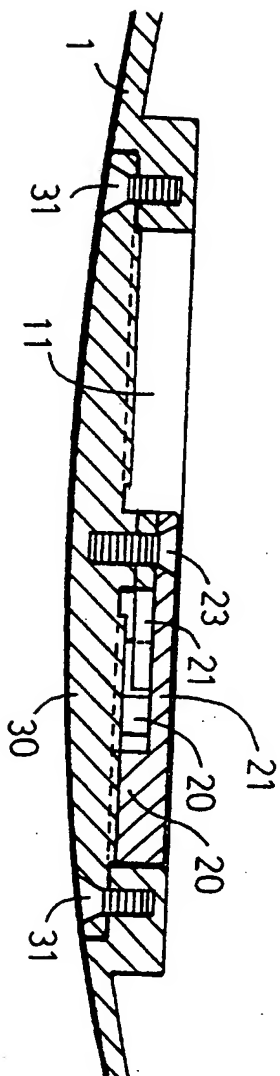


FIG. 5

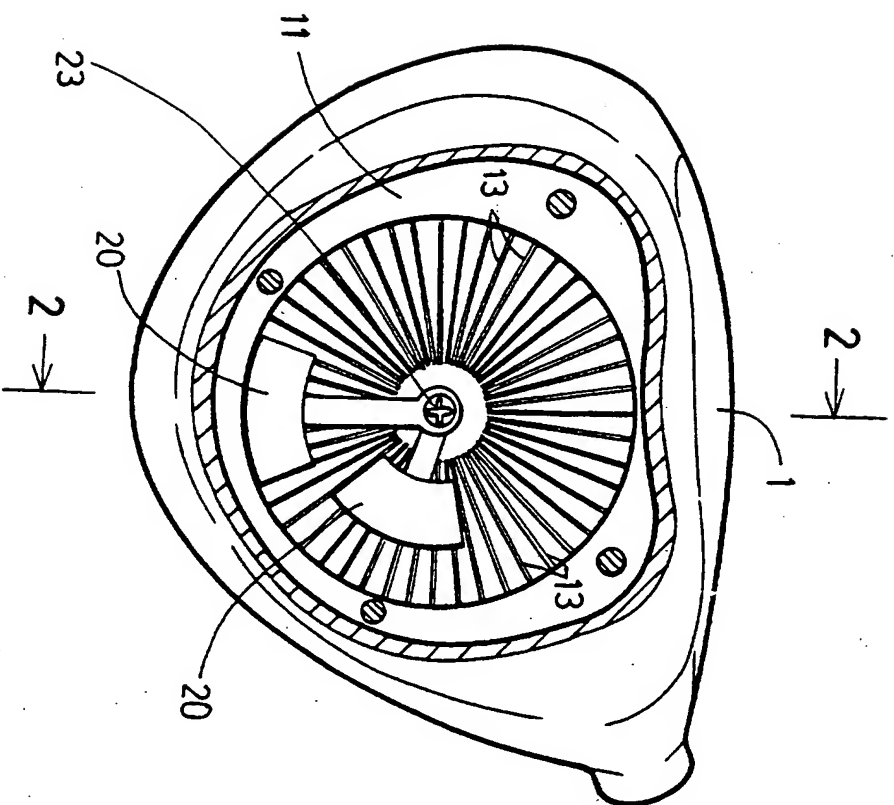


FIG. 3

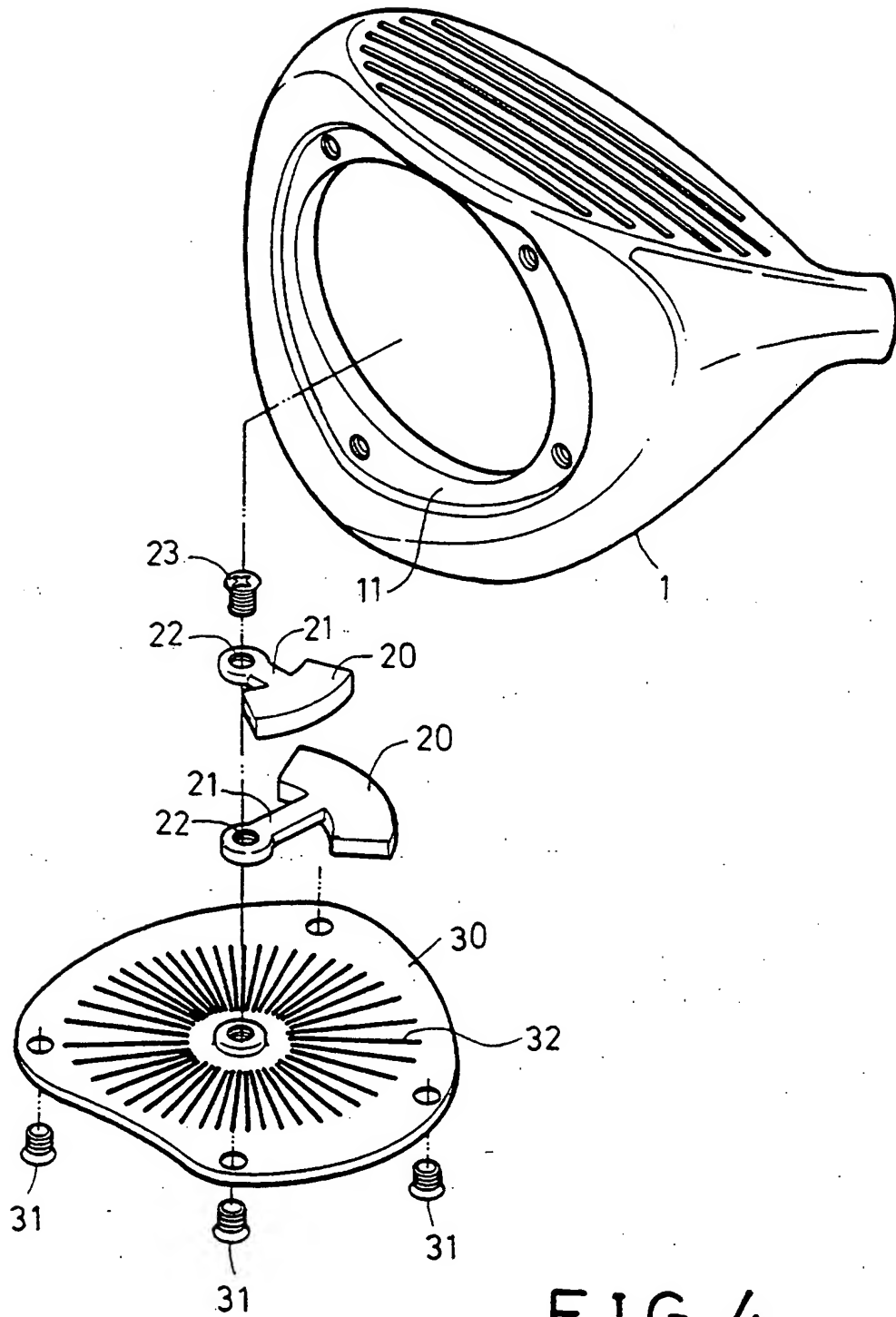


FIG. 4

GOLF CLUB HEAD

The invention relates to a golf club head having an adjustable center of gravity.

05 Typical golf club heads comprise one or more weights that may be exchangeably secured to the head body for adjusting the weight of the head. In order to adjust the weight or the center of gravity of the head, it is required to disengage the previous weight from the head and to secure the other weight onto the head.

10 In addition, the fasteners may not be easily actuated to secure the weights to the head, such that the center of gravity of the golf club head may not be easily adjusted.

It is accordingly an object of the present invention to provide an improved golf club head which

15 may be easily and accurately adjusted to different center of gravity.

According to the present invention there is provided a golf club head comprising:-

- 20 (a) a body,
- (b) at least one weight, and
- (c) means for adjustably securing the weight relative to the body and for allowing the weight to be secured to different position relative to the body and
- 25 for adjusting a center of gravity of the body.

The adjustably securing means includes a pivot shaft for pivotally securing the weight to the body for

allowing the weight to be rotated about the pivot shaft.

The body includes a recess, the weight is received in the recess. A cover is secured to the body for enclosing the recess and for protecting the weight.

The body includes a plurality of ribs, the weight includes a plurality of ribs for engaging with the ribs of the body and for securing the weight to the body.

FIG. 1 is an exploded view of a golf club head;

FIG. 2 is a cross sectional view taken along lines 2-2 of FIG. 3;

FIG. 3 is a cross sectional view taken along lines 3-3 of FIG. 2;

FIG. 4 is an exploded view illustrating another application of the golf club head; and

FIG. 5 is a cross sectional view of the golf club head as shown in FIG. 4.

Referring to FIGS. 1-3, a golf club head comprises a body 1, including a recess 11 formed in the bottom portion and including a number of radially extended grooves or ribs 13 and including a screw hole 12 formed in the center of the recess 11. One or more weights 20 each includes a hole 22 for engaging with a screw 23 which may engage with the screw hole 12 for securing the weight(s) 20 to the body 1 and which may form as a pivot shaft of the weights 20 relative to the body 1. It is preferable that the weights 20 each includes an

extension 21 for rotatably securing to the body 1 by the screw 23 and each includes a number of ribs or grooves 24 for engaging with the grooves or ribs 13 of the body 1 and for allowing the weights 20 to be
05 solidly secured to the body 1 when the weights 20 are forced or secured toward the body 1 by the screw 23. A cover 30 may be secured to the body 1 by fasteners 31 for enclosing the recess 11 and for protecting the weights 20.

10 As shown in FIG. 3, the weight(s) 20 may be rotated about the screw 23 to different position for accurately adjusting the center of gravity of the body 1, and may be easily secured in place by the screw 23. The engagement between the grooves or ribs 13, 24 may
15 further solidly secure the weights 20 to the body 1.

It is to be noted that the recess 11 may also be formed in the rear portion, or the front portion, or the upper portion of the body 1 instead of forming in the bottom portion of the body 1. In addition, the
20 weight(s) may be directly secured onto the body 1 without the recess 11 and the cover 30.

Referring next to FIGS. 4 and 5, alternatively, the cover 30 may includes a number of radially extending grooves or ribs 32 for engaging with that of
25 the weights 20 and for securing the weights in place.

CLAIMS:

1. A golf club head comprising:

a) a body,

b) at least one weight, and

05 c) means for adjustably securing said weight relative to said body and for allowing said weight to be secured to different position relative to said body and for adjusting a center of gravity of said body.

2. A golf club head as claimed in claim 1, wherein
10 said adjustably securing means includes a pivot shaft for pivotally securing said weight to said body for allowing said weight to be rotated about said pivot shaft.

3. A golf club head as claimed in claim 1, wherein
15 said body includes a recess, said weight is received in said recess.

4. A golf club head as claimed in claim 3 further comprising a cover secured to said body for enclosing said recess and for protecting said weight.

20 5. A golf club head as claimed in claim 1, wherein said body includes a plurality of ribs, said weight includes a plurality of ribs for engaging with said ribs of said body and for securing said weight to said body.

25 6. A golf club head substantially as herein described with reference to the accompanying drawings.

Amendments to the claims have been filed as follows

1. A golf club head comprising a body, at least one weight attached to the body for rotation relative thereto about an axis, and means for adjustably securing the weight to the body such that the centre of gravity of the body can be adjusted by adjustment of the angular position of the weight about the axis.
2. A golf club head as claimed in Claim 1, which includes two weights arranged for rotation about a common axis relative to the body.
3. A golf club head as claimed in either of the preceding claims, in which the body includes a recess within which the or each weight is contained.
4. A golf club head as claimed in Claim 3, which includes a cover secured to the body so as to close the recess and to protect the weight or weights.
5. A golf club head as claimed in any one of the preceding claims, in which the body includes a plurality of ribs or grooves and the weight includes a plurality of complementary interengaging grooves or ribs for securing the weight against rotation relative to the body.

6. A golf club head as claimed in Claim 4, in which the cover includes a plurality of ribs or grooves and the or each weight includes a plurality of complementary interengaging grooves or ribs for securing the weight or weights against rotation relative to the body.
7. A golf club head substantially as hereinbefore described with reference to and as shown in Figures 1 to 3, or Figures 4 and 5, of the accompanying drawings.



Patent Office

7

Application No: GB 9716837.1
Claims searched: 1 to 6

Examiner: Alan Blunt
Date of search: 31 October 1997

Patents Act 1977 Search Report under Section 17

Databases searched:

UK Patent Office collections, including GB, EP, WO & US patent specifications, in:

UK Cl (Ed.O): A6D (D23A, D23B)

Int Cl (Ed.6): A63B 53/04, 53/08

Other: On-Line Database: WPI

Documents considered to be relevant:

Category	Identity of document and relevant passage	Relevant to claims
X	GB2133295A (KAMIFUKO) - whole document	1
X	GB1568988 (CHURCHWARD) - whole document	1, 3, 4

X Document indicating lack of novelty or inventive step
Y Document indicating lack of inventive step if combined with one or more other documents of same category.
& Member of the same patent family

A Document indicating technological background and/or state of the art.
P Document published on or after the declared priority date but before the filing date of this invention.
E Patent document published on or after, but with priority date earlier than, the filing date of this application.

**This Page is Inserted by IFW Indexing and Scanning
Operations and is not part of the Official Record**

BEST AVAILABLE IMAGES

Defective images within this document are accurate representations of the original documents submitted by the applicant.

Defects in the images include but are not limited to the items checked:

- ☐ BLACK BORDERS
- ☐ IMAGE CUT OFF AT TOP, BOTTOM OR SIDES
- ☒ FADED TEXT OR DRAWING
- ☐ BLURRED OR ILLEGIBLE TEXT OR DRAWING
- ☐ SKEWED/SLANTED IMAGES
- ☐ COLOR OR BLACK AND WHITE PHOTOGRAPHS
- ☐ GRAY SCALE DOCUMENTS
- ☒ LINES OR MARKS ON ORIGINAL DOCUMENT
- ☐ REFERENCE(S) OR EXHIBIT(S) SUBMITTED ARE POOR QUALITY
- ☐ OTHER: _____

IMAGES ARE BEST AVAILABLE COPY.

As rescanning these documents will not correct the image problems checked, please do not report these problems to the IFW Image Problem Mailbox.